HERITAGE
THERMAL SERVICES

7-13-13 INCIDENT RELEASE – SUMMARY OF POST INCIDENT EVENTS

HERITAGE THERMAL SERVICES

EPA ID NO. OHD980613541

HERITAGE THERMAL SERVICES

EAST LIVERPOOL, OH

The dust plume travelled in a south westerly path per the wind direction at that time. Immediately after the release, a total of 12 samples were collected within the facility as part of the incident investigation. Splits of the samples were also provided to the Ohio Environmental Protection Agency (OEPA). HTS had the samples analyzed at the Heritage Environmental Services NELAP Certified Commercial Laboratory in Indianapolis, Indiana.

The following report provides summaries of the responses taken by HTS for each of the days since the incident.

Saturday (7/13)

HTS's immediate response was to ensure that the fire was extinguished, verify that automatic shut downs of equipment engaged as designed and clean up the ash and slag at the facility. In addition, one HTS employee was sent to walk the affected areas outside the fence to get a preliminary view of the release zone. A second HTS employee performed air monitoring within the facility.

Sunday (7/14)

General facility site clean-up occurred on Sunday. This cleanup included incinerator washing, as well as two (2) vac-trucks being used to collect debris around the spray dryer.

Monday (7/15)

A public call center was set up through HTS to allow residents to contact the facility if they had any questions or concerns about the release. A team of four HTS employees walked the neighborhoods from 2:00 pm to 4:00 pm to distribute information on the call center and engage with neighbors about the incident. The calls received by the public call center are summarized in **Appendix D – Residential Inspection Forms**. Residents were also encouraged to bring their vehicles to the facility for a free rinse and car wash voucher. A total of 103 car wash vouchers were purchased by HTS from the local car washing business, Uptown, located at 215 W. Sixth Street in East Liverpool. All of the car wash vouchers were given to local residents over the next few days. All car wash vouchers that had been used were tracked and are included **Appendix C – Data**. The East Liverpool Reporter also placed an article in the newspaper informing residents about the situation (see **Appendix A – Press Release Information**).

Eight (8) additional samples were collected by both HTS and OEPA personnel for additional metal testing. Samples were taken from the affected community (i.e. basketball hoops, mailboxes, vehicles). These samples were tested for 23 elements (i.e. aluminum, arsenic, lead, mercury, etc.).

Tuesday (7/16)

A response team from Heritage Environmental Services (HES) in Indianapolis, as well as several HTS employees and assistance from decontamination crews from Environmental Remediation Services (ERS) assembled on site Tuesday (7/16) morning to discuss and prepare an action plan for additional cleanup procedures. During this time, standard operating procedures (SOP), as well as a health and safety plan, were created for the crews (see **Appendix B – Plans and Procedures**).

Images 4 and 5 – Before and after images of creek crossing on Virginia Avenue

During downtime, ERS crews with HES and HTS personnel removed trash and debris from the creek bed along Virginia Avenue. The removal of trash and debris from the creek bed was unrelated to the ash incident. A total of three (3) trash bags were filled with debris from the previous flooding the community had experienced due to heavy rainfall.

Thursday (7/18)

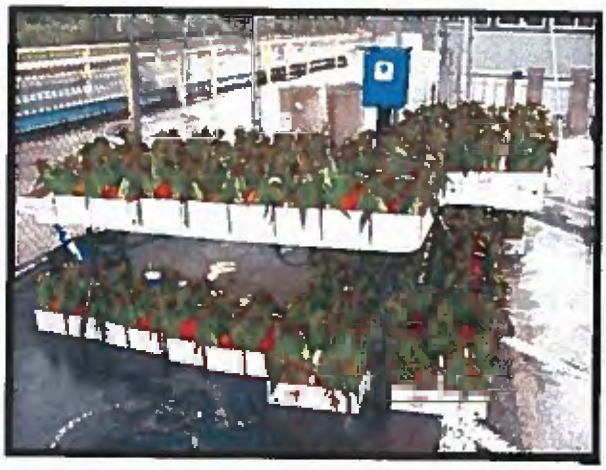
The street sweeper was in operation in the morning to complete street cleaning activities with HTS employees. A total of 50,260 lbs. of street mud and debris were collected during the cleaning operations and this material was received at HTS for processing. See **Appendix C - Data** for load weights received.

Crews cleaned one (1) above-ground swimming pool, six (6) houses, six (6) porches, and two (2) garages. Approximately 6,720 gallons of pool water were drained with the vac-truck and emptied in to the sump at the HTS facility. HTS with HES personnel also took two (2) pool water samples per the request of homeowners. These samples were taken back to the HTS laboratory for analysis (both samples came back with normal pool water characteristics). HES personnel also purchased eight (8) 50-lb bags of play sand from Tractor Supply Company in order to replace sand in a child's play box. The original sand in the play box was disposed of. A HTS Press Release was submitted to the public (see **Appendix A – Press Release Information**).

Images 6 and 7 – Crews cleaning children's swimming pool on Ohio Street





Images 9 through 14 – HTS personnel passing out produce baskets on Saturday, July 20th.

We want to hear from you if you have any questions about impacts from the accident on July 13.

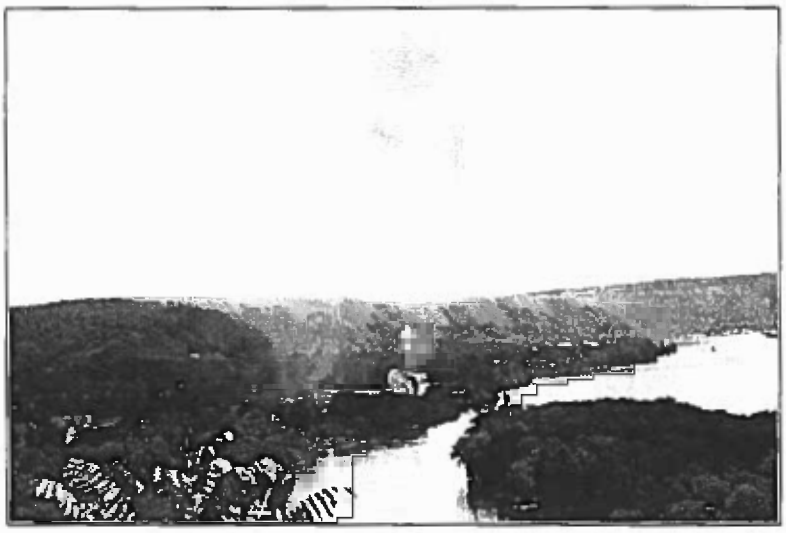
Call us at 1.800.343.1984

If an associate is talking with other neighbors when you call, please leave a message and we will return your call as soon as we can. The center is staffed from 7 a.m. to 6 p.m. Monday through Friday.

We apologize for disturbing your summer afternoon on Saturday. We are working hard to make sure it doesn't happen again.

Your neighbors at Heritage Thermal Services.

Article Photos



A plume of steam and ash rises over the city's East End a...

"The volume of ash was larger than the ash-removal system could handle and an undetermined amount was deposited outside of the incineration unit," Wayne said.

The ash release was the result of an explosion that occurred when hot slag landed in a large water tank, said Luke Newbold, director of the Columbiana County Emergency Management Agency. "That sent ash and steam out into the air," he said.

Also, an ember fell on several bags of vermiculite that were stored nearby and caught them on fire, Wayne said. The fire was extinguished by the facility's emergency responders, with assistance from the East Liverpool Fire Department.

No injuries were reported, and cleanup efforts are under way, Wayne said.

As a result of the ash fall, the facility, formerly known as Heritage-WTI, stopped operations and immediately began a previously-scheduled outage. The outage, which had been scheduled to start today for maintenance purposes, will last for two weeks, Wayne said.

Heritage personnel also are conducting air and soil sampling as a precaution at the facility's fence line.

Ash from the accident was believed to have fallen as far north as Pennsylvania Avenue and as far west as Ohio Avenue. The Ohio Environmental Protection Agency is responding to see if any ash was deposited into the Ohio River, Newbold said.

Heritage Thermal Services, located at 1250 St. George St. for more than 20 years, processes about 60,000 tons of hazardous and non-hazardous waste a year. Disposal is done through a rotary kiln

Heritage foots the bill to clean up streets

July 17, 2013

By JO ANN BOBBY-GILBERT East Liverpool Reporter (jgilbert@reviewonline.com) | The Review

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EAST LIVERPOOL - Streets in the East End of the city affected by the release Saturday of an ashy material from Heritage Thermal Services were being cleaned Tuesday with the new street sweeper, courtesy of the Saint George Street company.

Service-Safety Director Ryan Estell said Heritage Thermal asked for use of the sweepers at its cost to clean neighborhood streets of the rose-colored residue that spread as far north as Pennsylvania Avenue and as far west as Ohio Avenue when a large ash deposit fell from the interior walls of the hazardous waste incinerator, spreading into the atmosphere.

The sweeper was making its rounds Tuesday, and Estell said when it had finished cleaning the streets, all the material picked up would be taken to Heritage for removal and disposal, and the sweeper would be cleaned there.

City street personnel was operating the sweeper and the company was paying for his time, Estell emphasized.

Meanwhile, Heritage was also placing booms in front of storm drains in the affected area as a precaution in the event of rain to keep any of the material from entering storm drains, Estell reported, saying city street personnel were showing them the locations of storm drains throughout the affected area.

Heritage employees were still handing out flyers Tuesday with the toll-free number to call with questions about any impact from Saturday's accident. That number is 1-800-343-1984 and can be called between 7 a.m. and 6 p.m. weekdays. Callers are being urged to leave a message if they receive an answering machine.

Samples taken Monday are being analyzed by the Ohio Environmental Protection Agency to determine the content of the ash, and the OEPA issued a reminder that those growing fruits and vegetables in the affected area to rinse them before eating and to rinse out pet food and water bowls that are outdoors.

Results of the sampling are not expected for several days.

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Heritage Thermal offers free groceries

EAST LIVERPOOL — From 10 a.m. until noon Saturday, Heritage Thermal Services will be offering 100 free grocery baskets at its front gate on Saint George Street to residents affected by the July 13 release of ash from its hazardous waste incinerator.

The baskets will be filled with a dozen ears of corn and tomatoes,

EAST LIVERPOOL

provided by a local vendor.

Residents will be asked for identification and to complete a confirmation form, with one basket per household.

Baskets will be distributed on a first-come, first-served basis.

Individuals who are likely to be most affected by a short-term exposure event are those with pre-existing respiratory conditions who might experience temporary discomfort from exposure to any kind of particulate. Such individuals may have experienced brief coughing as the ash fell, but we believe no adverse effects are expected from exposure to the concentrations of compounds detected in the worst-case samples taken right after the ash release. Indeed, coughing is one of the body's primary means of clearing the respiratory passages of foreign materials.

In addition to the concentrations measured, the other considerations in assessing the potential for adverse health effects include: how much was released (dose), how often the compounds were released (frequency), and how long the release lasted (duration). The bulk of the scientific literature about adverse effects of the relevant compounds focuses on the impacts from long-term, frequent exposure to a range of doses. Infrequent exposures of short duration to small quantities of elevated concentrations of materials -- such as occurred in this release of ash – are generally of less potential health concern than lower doses experienced daily for many years.

This document describes each compound and the range of concentrations of that compound found during the initial sampling. Higher concentrations were detected onsite or close to the facility fence line, in the area of greatest deposition where most of the ash fell. These higher concentrations were evidenced by a sample of ash taken from the surface of a nearby vehicle just downwind of the site. It also attempts to put some of this information into context by describing how much one would have to be exposed to over time to approach thresholds of health concern.

In the next few weeks, HTS is also taking more samples at areas where most of the ash fell to characterize the amount of ash that may still be present at the soil's surface. HTS will continue to cooperate and work closely with Ohio EPA and local authorities.

What was in the dust?

The ash in the residential surface samples collected right after the release was tested for 23 compounds that are typically found in the facility ash. These compounds are found in the earth's crust and are generated by other sources, notably manufacturing and transportation. We describe some of these sources below, as well as the range of effects known to be associated with inhaling or ingesting these compounds.

Some of the measured compounds are essential nutrients; we know a great deal about their health benefits when ingested. As with any compound, however, excessive amounts can be associated with adverse health effects. Beneficial versus harmful levels of these compounds are discussed generally below. Dietary Reference Intakes and other values for compounds with known recommended daily intakes are given where relevant.

Aluminum is the most abundant element in the earth's crust and is familiar to all of us in such everyday items as aluminum foil and bake ware. Concentrations of aluminum in HTS incinerator ash range from 12.3-59.9 grams of aluminum per kilogram of ash (g/kg).

Dust on nearby vehicles range from concentrations too low to detect (i.e., below 50 mg aluminum per kg of ash, or mg/kg) to 7.8 g/kg ash. All other sample results were between those values.

Antimony is commonly combined with other metals to form alloys for use in batteries and electronics. It is less toxic than many other metals; the EPA requires that spills of antimony over 5,000 pounds be reported. Average daily intake of antimony from all sources is about 5 micrograms, and the World Health Organization has

Offsite concentrations of calcium range from undetectable (<50 mg calcium per kg ash) to 34 g/kg ash, measured on the surface of the car near the facility property line.

Chromium is present in the earth's soil at concentrations averaging 200 mg/kg. The Dietary Reference Intake is 0.2 to 45 micrograms (ug) per day depending on age and gender, values that are significantly exceeded through ingestion of common dietary supplements such as chromium picolinate.

Concentrations measured in local surface samples range from below detection level (<5 mg/kg ash) to 37 mg chromium per kg of ash.

Copper is commonly used in pennies, wiring and electronics. It is also an essential nutrient with a daily Dietary Reference Intake of intake of 220-1,300 micrograms (depending on age and gender) and a Tolerable Upper Intake Level of 10 mg.

Offsite concentrations near HTS range from non-detectable (<50 mg/kg) to 2,137 mg/kg ash measured on the car near the HTS property boundary.

Iron is the most common element making up our planet and an essential element for human life. Iron has a Dietary Reference Intake of 0.27 to 27 mg per day (depending on age and gender) and a Tolerable Upper Intake Level of 45 mg per day.

Concentrations of iron in surface samples range from not detectable (<50 mg/kg ash) to 7.6 g iron per kg ash taken from the playground slide at St. George & Mulberry.

Lead has no known biological function and is naturally present in soils in concentrations of 20–400 mg per kg soil. It has been commonly used in construction, batteries, solder, bullets, and many other applications for thousands of years. Ingesting lead paint is the most common source of exposure for children now that leaded gasoline has been eliminated. Chronic exposure at high levels can cause blood and brain disorders, primarily affecting the nervous system.

Lead is the one substance measured in a nearby offsite surface concentration that would approach levels of potential health concern if ingested in quantity over time. Concentrations of lead range from not detected (<5 mg/kg ash) to 10 g lead per kg ash on the vehicle close to the facility property line. Subsequent sampling is being conducted to ensure that no lead contamination from the July 13, 2013, incident is still available in a form and location where it might be ingested frequently over time.

Lithium and its compounds have several industrial applications, including heat-resistant glass and ceramics, high strength alloys used in aircraft, electronics, and batteries. Trace amounts of lithium are present in all organisms, and a Recommended Dietary Allowance of 1 milligram per day has recently been proposed.

There were no detectable concentrations of lithium measured offsite (<50 mg/kg), except for one sample taken from the surface of the vehicle near the property fence line containing 243 mg per kilogram of ash.

Magnesium ions are essential to all living cells, and it is an abundant element on earth. Magnesium is used to produce the white light of fireworks, the distinctive taste of mineral water, and the antacid properties of Milk of Magnesia. Magnesium is the third most common structural metal following iron and aluminum, and is commonly used in electronic devices because of its strength and light weight. Common sources of ingested magnesium include spices, nuts, cereals, coffee, cocoa, tea, and vegetables, and its daily Dietary Reference Intake is 30-420 mg.

Sodium is an essential element that is also of critical importance in the manufacture of glass, paper, soap and textiles. Its Dietary Reference Intake is 0.12 to 1.5 grams per day, with a Tolerable Upper Intake Level of 1.5 to 2.3 grams per day. In contrast, average US daily consumption is 3.4 grams per day through ingesting excess salt. The hypertension associated with excess sodium intake is believed to result in 7.6 million premature deaths worldwide each year.

Concentrations in local surface samples range from non-detectable (<50 mg/kg ash) to 16.4 grams per kg ash, in ash taken from the surface of the vehicle near the facility property line.

Thallium is primarily used in the manufacture of electronics, pharmaceuticals and glass. It occurs naturally in soil at a concentration of about 0.6 mg/kg soil. While soluble thallium salts are toxic at higher doses, no measurable concentrations of thallium were detected (<50 mg/kg ash) in any surface samples near the facility.

Zinc has been used as far back as the 10th century BC. Various zinc compounds are commonly used today in cosmetics, sunscreens, dietary supplements, deodorants, and anti-dandruff shampoos. It is an essential element, with zinc deficiency affecting two billion people throughout the world. The Dietary Reference Intake is 2-13 mg/day depending on age and gender, with a Tolerable Upper Intake Level of 4-40 mg/day.

The level of zinc occurring naturally in soil is 132 mg/kg soil. Soils contaminated with zinc, primarily through mining, can contain several grams of zinc per kilogram of dry soil. Levels of zinc in excess of 500 mg/kg in soil interfere with the ability of plants to absorb other essential metals, such as iron and manganese. According to a UK study, zinc levels of 2-180 g/kg soil (0.2-18%) have been recorded in some soil samples. Concentrations in local surface samples near the facility range from non-detectable (<50 mg/kg ash) to 26.1 g/kg sampled at the vehicle at the facility fence line.

What is HTS doing to prevent an ash release like this from happening in the future?

HTS is undergoing an in-depth investigation into the incident. Once completed, corrective and preventive actions will be taken to minimize the possibility of reoccurrence, as necessary. HTS is considering adding new laboratory equipment for additional testing of materials; planning more frequently scheduled incinerator cleanings and outages to remove residue; and installing additional ash removal equipment. Additional surveillance monitoring is being considered.

Conclusion

Based on the results of initial surface samples taken in the neighborhood right after the ash release, HTS believes that no adverse health effects would be expected from short-term exposure to the ash, except possibly to those with pre-existing respiratory conditions who might be bothered by brief exposure to particulate matter of any kind (vehicle exhaust, dust, barbecues, etc.). These individuals may have experienced brief discomfort, notably coughing. Other individuals may have briefly experienced stinging eyes from the warm, alkaline ash. Likewise, HTS does not believe there would be any impacts through eating vegetables from gardens which may be affected by the ash. We concur with OEPA's recommendation that residents wash fruits and vegetables from their gardens and replace food and water for pets and farm animals as a standard precaution.

Who can I contact if I have questions?

Please call us at 1.800.343.1984.

Heritage-Thermal Services
East Liverpool, OH
Health and Safety Plan

1250 Saint George Str.
E. Liverpool, OH 43920
330-385-7337

Client:	HTS
Contact:	
Phone #:	
Facility Address:	

Heritage PM:	John Avdellas
Project #:	
Project Site:	Community
Project Date(s):	7/16/13 - duration

Scope of Work:	Clean up effected areas of residue resulting from a July 13, 2013 ash release incident at the HTS incinerator.

Equipment:	Pressure Washer, Pools, Tarps, Absorbent Material, Drum fibers with liners, Poly drums, Long handled tools/brushes, Ladders, Wear High-Vis safety vest.

Hazard Evaluation

		Chemical/Material	Quantity	Concentration	MSDS
Chemical	1	Ash- See attached analytical report			☐ Yes
	2				☐ Yes
	3				☐ Yes
	4				☐ Yes
	5				☐ Yes

Physical	Confined Space	☐	Low Pressure Wash(<2,500 psi)	☑
	Noise	☑	High Pressure Wash(>2,500 psi)	☐
	Hot Work	☐	Below Grade Work	☐
	Energized/Pressurized Lines/Equipment	☑	Elevated Work	☑

		Zone # and Level of Protection***
Work Tasks	Task 1: Mobilize/ staging	1/D
	Task 2: Set-up	2/D
	Task 3: Pressure Washing	3/C or D
	Task 4: Vacuum Truck Operations	3/C
	Task 5: Decon/Clean-up	2/D
	Task 6:	

All Protection Levels Dependent on Air Sampling Results

	Procedure	Revision	Applicable ?
Applicable Heritage Procedures	General Safety Rules	Pre-Job Discussion	☑
	Confined Space Entry		☐
	Fall Protections Procedures and Training		☑
	Grounding and Bonding		☐
	Hoses/Coupling		☑
	Hydroblasting		☐
	Lockout/Tagout		☐
	Pipeline Breaking		☐
	Tank Cleaning and Decontamination		☐
	Vacuum Truck Operations		☑
	Vehicle and Equipment Operations		☑
	Cranes and Mobile Lifting Equipment		☐
	Truck Unloading		☑
	Ladders and Work Platforms		☑
	Lift Safety		☑
	BEE SAFE		☑

ASH-1 Rev. 3 ✓
ASH-2 Rev. 3 ✓

	Signature	Name	Date
Prepared By:		Jeffrey Hall	07/16/13
		Title: Safety Group Manager	
Reviewed By:		Randy Sadler, CIH, CSP	07/16/13
		Title: Corporate Health and Safety Manager	

Emergency Information

Follow HTS Emergency plan and procedures.

Emergency Contacts		Agency Facility Name		Phone #	Response Time
		Ambulance- 330-386-5505 (Lifeteam EMS)		-911	8 minutes
		Fire Department- 330-385-1111 (ELFD)		-911	5 minutes
		Police Department-330-385-1234 (ELPD)		-911	5 minutes
		Hospital- Ohio Vally Riverside Hosp		330-385-7200	10 Min
		Dept. of Natural Resources			
		EPA			
		National Response Center			
		Chemtrec			
		Poison Control Center			
		Heritage Emergency Numbers	Nextel #	Home Phone #	Cell Phone #

7/18/13 matthew d smith Matthew I Smith

7/18/13 Derek Cardella

7/23/13 Derek Simon

7/23/13 Pete Wozniak is Pete Wozniak

7-23-13 Jeffrey W Owens Jr.

7-23-13 [illegible]

7-23-13 GREG NICKEY GN

Date	Time	Rainfall Amount
7-16-13	1300	0.06
7-16-13	1400	0.06
7-16-13	1500	0.06
7-16-13	1600	0.19
7-16-13	1700	0.22
7-16-13	1800	0.22
7-16-13	1900	0.22
7-16-13	2000	0.22
7-16-13	2100	0.22
7-16-13	2200	0.22
7-16-13	2300	0.22
7-17-13	0000	0.22
7-17-13	0100	0.22
7-17-13	0200	0.22
7-17-13	0300	0.22
7-17-13	0400	0.22
7-17-13	0500	0.22
7-17-13	0600	0.22
7-17-13	0700	0.22
7-17-13	0800	0.22
7-17-13	0900	0.22
7-17-13	1000	0.22
7-17-13	1100	0.17
7-17-13	1200	0.17
7-17-13	1300	0.17
7-17-13	1400	0.17
7-17-13	1500	0.17
7-17-13	1600	0.03
7-17-13	1700	0.00

AFTER-STORM

Date	Time	Rainfall Amount
7/18/13	2300	0.11
7/19/13	0000	0.11
7-19-13	0100	0.11
	0200	0.11
	0300	0.11
	0400	0.11
	0500	0.11
	0600	0.11
	0700	0.11
	0800	0.11
	0900	0.11
	1000	0.11
	1100	0.11
	1200	0.11
7-19-13	1300	0.11
"	1400	0.11
	1500	0.11
	1600	0.00
	1700	0.00
	1800	0.14
	1900	0.14
	2000	0.14
	2100	0.14
	2200	0.14
	2300	0.14
	2400	0.14
	0100	0.14
	0200	0.14
	0300	0.14

RAIN STORM

Street sweeper weights

Date	Start Wt	Full Wt	Empty Wt	Total Lbs.
7/16/13	21160	27780	21160	6,620.00
7/17/13	22340	35580	20960	14,620.00
7/17/13	23500	34020	20780	13,240.00
7/18/13	22620	37740	21960	15,780.00
			Total lbs. for 3 days	**50,260.00**

Requires Action? (Yes/No)	Form Number	Street #	Street	Owner	Date	Time	Contact Phone #	Call Center Operater	Actions Taken
No	1	208	Mulberry St	White, Glorida	7/15/2013	14:50	330-385-9319	KM	
No	2				7/15/2013	15:38	330-383-5715	KM	
No	5	1036	St. George St.	McCuen, Dawn	7/16/2013	7:24	330-385-1731	KM	
No	4	1129	Ohio Ave.	Harding, Janice	7/15/2013	17:23	330-385-0920	DR	
No	3	1129	Ohio Ave.	Harding, Janice	7/15/2013	16:41	330-385-0920	MB	
Yes	6	1030	St. George St.	Barnhart, Jack	7/16/2013	9:00	330-385-5136	MY	Went to house to wash porches Mr. Barnhart declined the services
No	7			DeSarro, Chris	7/16/2013	9:05	330-853-8228	MY	
Yes	8	963	St. George St.	Conley, Richard	7/16/2013	9:27	330-386-4258	MY	Owner was given replacement vegetables for his garden
Yes	No Form	1112	Ohio Ave.	Zigler, Linda	7/16/2013				Washed house and porch
Yes	No Form	1101	Ohio Ave.	Zigler, Linda	7/16/2013				Washed house and porch
Yes	No Form	1037	Ohio Ave.	Zigler, Linda	7/16/2013				Washed house, porch, and garage
No	No Form	809	Ohio Ave.	Zigler, Linda	7/16/2013				
No	9			Odasso, Chris	7/16/2013	12:48	412-973-2423	MB	
No	10	1250	St. George St.	Schaum, Marina	7/16/2013	14:08	330-382-1229	MY	
NOT USED	12								
Yes	No Form	Playground	St. George St. and Mulberry	City	7/17/2013	8:00			Washed all playground equipment, picnic table, wooden play pen, and fence.
Yes	No Form	1058	St. George St.	Nizer, Bobby	7/17/2013	9:15		RL	Washed car in back yard, six chairs, swing set, two umbrellas, grill, and deck.
Yes	No Form	535	Virginia Ave.	Protch, Kimberly	7/17/2013	10:00		RL	Washed all items on front porch, grill, and childrens playset
Yes	No Form	Ditch			7/17/2013	11:00			Cleaned trash/debris/recyclables out of ditch within the community.
No	13	936	St. George St.	Cowherd, James	7/17/2013	8:34	330-383-3719	MY	
No	14	1129	Ohio Ave.	Harding, Janice	7/17/2013	9:33	330-385-0920	MY	
Yes	15			Jones, John Paul	7/17/2013	10:05	304-564-4040	CH	Raymond to coordinate follow-up
Yes	16	803	Ohio Ave.	Kerr, Brian	7/17/2013	14:15	330-383-8258	MY	Washed pool liner and trampoline. Owner refilled the pool.
No	17	958	St. George St.	Thompson, Shanice	7/17/2013	14:20	330-385-9202	MY	
Yes	18	2484	Stagecoach Rd.	Hager, David	7/17/2013	14:38	330-386-6012	MY	Raymond explained to the owner that the deposition zone was not where his properties are located.
Yes	19	937	St. George St.	Farres, Shuman	7/17/2013	15:14	330-385-2727	MY	Purchased a new air conditioning unit for the homeowner.

Requires Action? (Yes/No)	Form Number	Street #	Street	Owner	Date	Time	Contact Phone #	Call Center Operater	Actions Taken
NOT USED	35								
No	36		St. George St.		7/21/2013		330-509-3354		
No	37	775	Ohio Ave.	Henderson, Phil				NS	
No	38	1032	Railroad St.	White, Spencer	7/22/2013	3:56	330-368-0959	MB	
No	39	937	St. George St.	Dawson, Sharon	7/22/2013	3:36	330-382-9103	MB	
No	40		Washington St. (Newell)	Norris, Becky	7/23/2013	9:58	304-387-3026	MB	
	41	1575	Cleveland Ave.	Buzzard, Ronald	7/23/2013	11:09	330-932-9609	PV	
Yes	42	966	Railroad St.	Rinestine, Bonnie	7/23/2013	12:51	330-385-2916	JA	She was reimbursed for the pool chemicals that she used in attempt to clean her pool ($31.41). She provided a receipt and was given cash.
Yes	43	966	Railroad St.	Rinestine, Bonnie	7/23/2012	12:51	330-385-2916	JA	Daily's pool service will be refilling the owner's pool on Thursday 7/25/13. Jim S. coordinated the service. Heritage will cover the expense.

= Completed actions

Address: Community Playground (St. George and Mulberry)

Contact: N/A

Before Photographs

After Photographs

Address: 1058 St. George

Contact: Bobby Nizer

Before Photographs

After Photographs

Address: 535 Virginia Ave

Contact: Kimberly Protch

Before Photographs

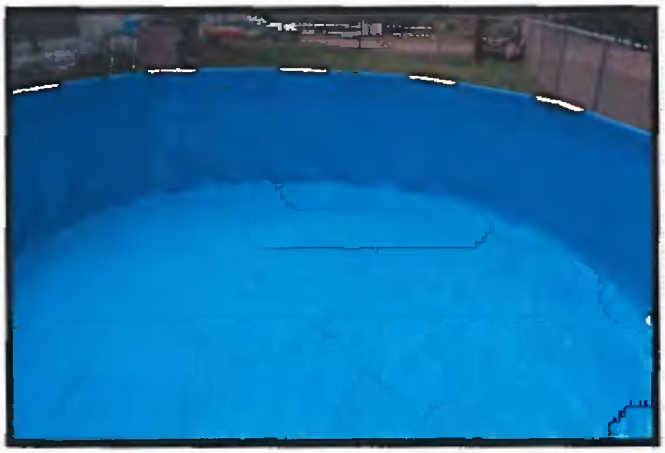
After Photographs

Address: 803 Ohio Ave

Contact: Brian Keen

Before Photographs

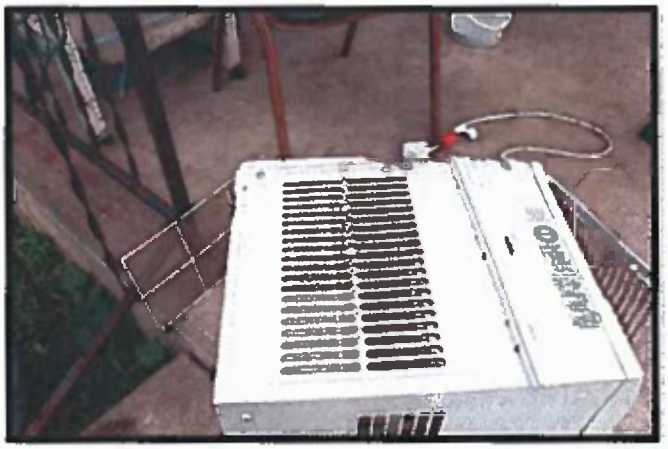
After Photographs



Address: 937 St. George St

Contact: Chris

Before Photographs



After Photographs (N/A)

Address: 855 Ohio Avenue

Contact: Don Steed

Before Photographs

After Photographs

Residential Clean-up Verification Form

Property Address: 1112 OHIO AVENUE

Date & Time Started 7-18-13 10:36 AM

Owner / Occupant: LINDA ZIEGLER (OWN) RENT

Phone Number: _____

Pre-Cleaning Photos? (YES) NO Photos start at 1401

HTS Representative: AL LOKER

Items Cleaned: HOUSE

PORCH

Materials Used: PRESSURE WASHER

TSP

MOPS, PLASTIC

Notes: RESIDENT UNDERSTANDS THAT WE ARE USING TSP WHICH MAY HARM VEGETATION.

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): LINDA ZIEGLER Date: 7-18-2013

Owner/Occupant Signature: Linda Ziegler ~~Time:~~ 11:45

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 1101 OHIO AVENUE

Date & Time Started 7-18-13 11:05

Owner / Occupant: LINDA ZIEGLER (OWN) RENT

Phone Number: _____

Pre-Cleaning Photos? (YES) NO

HTS Representative: AL LOKER

Items Cleaned: HOUSE
PORCH

Materials Used: PRESSURE WASHER
TSP
MOPS

Notes: PUT PLASTIC DOWN TO COLLECT
RINSE WATER

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): Linda Ziegler Date: 7-18-2013

Owner/Occupant Signature: Linda Ziegler Time: 11:45

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 1037 OHIO AVENUE

Date & Time Started 7-18-13

Owner / Occupant: LINDA ZIEGLER (OWN) RENT

Phone Number: _____

Pre-Cleaning Photos? (YES) NO

HTS Representative: _____

Items Cleaned: HOUSE
PORCH
GARAGE

Materials Used: PRESSURE WASHER
TSP

Notes: RESIDENT UNDERSTANDS THAT WE ARE USING TSP WHICH MAY CAUSE DID NOT WANT 4TH HOUSE WASHED.

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): Linda Ziegler Date: 7-18-2013

Owner/Occupant Signature: [signature] Time: 11:45

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 1114 ST GEORGE ST.

Date & Time Started 7/18/13

Owner / Occupant: MARGARET POOLE (OWN) RENT

Phone Number: _____

Pre-Cleaning Photos? (YES) NO

HTS Representative: _____

Items Cleaned: HOUSE
PORCH
GARAGE

Materials Used: PRESSURE WASHER
TSP

Notes: MAY NEED POOL TESTED, DRAINED, AND REFILLED. NOT WORRIED ABOUT PLANTS.

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): Alesha McKee Date: 7/18/13

Owner/Occupant Signature: Alesha McKee Time: 3:00

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 1116 ST GEORGE ST.

Date & Time Started 7-18-13

Owner / Occupant: Shawn Poole (OWN) RENT

Phone Number: ~~PBH~~ 330-368-0368

Pre-Cleaning Photos? (YES) NO

HTS Representative: AL LOKER

Items Cleaned: HOUSE

PORCH

POOL (DRAINED)

Materials Used: PRESSURE WASHER

TSP

VAC-TRUCK

Notes: POOL HAS TURNED GREEN, ADDED CHEMICALS BUT CANT GET IT CLEAR.

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): Shawn Poole Date: 7-18-13

Owner/Occupant Signature: Shawn Poole Time:

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 1124 ST. GEORGE ST.

Date & Time Started 7-18-13

Owner / Occupant: MARGARET POOLE (OWN) RENT

Phone Number: _____

Pre-Cleaning Photos? (YES) NO

HTS Representative: AL LOKER

Items Cleaned: HOUSE
PORCH

Materials Used: PRESSURE WASHER
TSP

Notes: SAME OWNER AS 1114 ST. GEORGE ST.
FAMILY MEMBER WILL SIGN OFF ON PAPERWORK ON HER BEHALF. EMPTIED SAND BOX. WILL REFILL WHEN WE GET NEW SAND.

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): Aleasha Mckel Date: 7/18/13

Owner/Occupant Signature: Aleasha Mckel Time: 3:00

Revised: 07/13/2013

Property Address: 870 STATE STREET

Date & Time Started 7-18-13 4:00 PM

Owner / Occupant: KEVIN HUGHES (OWN) RENT

Phone Number: 330-385-8241

Pre-Cleaning Photos? (YES) NO

Crew Leader: _____

Items Cleaned: SAMPLED POOL

Materials Used: SAMPLE JAR

Notes: TOOK TO LAB FOR TESTING

D. Simon - Spoke to resident on 7-22-13 and gave results of pool water sample.

Mr. Hughes said that he was going to add chemicals and continue using the pool.

Post Cleaning Photos? YES (NO)

Was Owner/Occupant satisfied with the cleaning? YES NO

Owner/Occupant Name (Print): _____ Date: 7-22-13

Owner/Occupant Signature: _____ Time: 4:00 PM

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 951 OHIO AVENUE

Date & Time Started 7-19-13 7:40 AM

Owner / Occupant: TERRY JARVIS (OWN) RENT

Phone Number: _____

Pre-Cleaning Photos? (YES) NO

HTS Representative: RICK ADAMS

Items Cleaned: HOUSE
PORCH
GARAGE

Materials Used: PRESSURE WASHER
TSP

Notes: _____

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): MARY JARVIS Date: 7-19-13

Owner/Occupant Signature: Mary Jarvis Time: 8:00 am

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 1111 OHIO AVENUE

Date & Time Started 7-19-13 8:10 AM

Owner / Occupant: RICHARD CHAMBERLAIN (OWN) RENT

Phone Number: 330-385-9137

Pre-Cleaning Photos? (YES) NO

HTS Representative: RICH ADAMS

Items Cleaned: HOUSE

GARAGE

PORCH

SWING SET

PICNIC TABLE

Materials Used: PRESSURE WASHER

TSP

Notes:

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): RICHARD CHAMBERLAIN Date: 7-19-13

Owner/Occupant Signature: Richard Chamberlain Time: 8:35 AM

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 909 OHIO AVENUE

Date & Time Started 7-19-13 9:15 AM

Owner / Occupant: _____ (OWN) RENT

Phone Number: _____

Pre-Cleaning Photos? (YES) NO

HTS Representative: RICH

Items Cleaned: HOUSE & FRONT PORCH

Materials Used: PRESSURE WASHER

TSP

Notes: WANTED TO KNOW WHY WE DIDN'T GET THE VERY TOP OF HIS HOUSE - PRESSURE WASHER

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): JAMES FORSTALL Date: 7-19-13

Owner/Occupant Signature: James F Forstall Time: 10:00 AM

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 1200 ST. GEORGE ST

Date & Time Started 7-23-13 8:30AM

Owner / Occupant: BROCK RUSSELL (OWN) RENT

Phone Number: 330-385-9350

Pre-Cleaning Photos? (YES) NO

HTS Representative: KEITH MOYER

Items Cleaned: HOUSE
FRONT PORCH
BACK PORCH

Materials Used: PRESSURE WASHER
PLASTIC LINER
TSP

Notes: MOTHER OWNS THE HOUSE
COME ANYTIME ON 7-23-13

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? YES NO

Owner/Occupant Name (Print): _____ Date: 7-23-13

Owner/Occupant Signature: _____ Time: 9:15AM

WAS NOT HOME TO SIGN FORM

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 966 RAILROAD ST.

Date & Time Started 7-23-13 9:30 AM

Owner / Occupant: BONNIE RINSTINA (OWN) RENT

Phone Number: 330-385-2916

Pre-Cleaning Photos? (YES) NO

HTS Representative: KEITH MOYER

Items Cleaned: POOL - WATER REMOVED, LINER CLEANED

Materials Used: VAC-TRUCK

TSP

PRESSURE WASHER

Notes: SAMPLED THE POOL WATER ON 7-19-13, METALS ANALYSIS SHOWED ONLY CALCIUM AT 83 PPM, REST WERE NON-DETECT.

Post-Cleaning Photos? (YES) NO

Was Owner/Occupant satisfied with the cleaning? (YES) NO

Owner/Occupant Name (Print): Bonnie Rinestine Date: 7-23-13

Owner/Occupant Signature: Bonnie Rinestine Time: 11:05 AM

Revised: 07/13/2013

Residential Clean-up Verification Form

Property Address: 963 ST GEORGE ST.

Date & Time Started 7-23-13

Owner / Occupant: RICHARD CONLEY (OWN) RENT

Phone Number: 330-386-4258

Pre-Cleaning Photos? YES NO

HTS Representative: D. Simon

Items Cleaned:

Materials Used:

Notes: VEGETABLE PLANTS → REPLACEMENT?
GIFT CARD?
* JIM IS TAKING CARE OF IT *

Post-Cleaning Photos? YES NO

Was Owner/Occupant satisfied with the cleaning? YES NO

Owner/Occupant Name (Print): _____ Date: _____

Owner/Occupant Signature: _____ Time: _____

Revised: 07/13/2013

HERITAGE THERMAL SERVICES

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
HERITAGE-WTI 1250 ST. GEORGE ST. EAST LIVERPOOL, OH 43920 (330)385-7813	01-MAY-13	W376973
	Completed 05-MAY-13	PO Number DO NOT BILL
	Printed 29-JUL-13	Sampled 01-MAY-13 13:33

Report To

DON VENTURINI
HERITAGE-WTI, INC
1250 ST GEORGE STREET
EAST LIVERPOOL, OH 43920-3400

Sample Description

CLIENT ID: A13346
MATRIX TYPE: SLUDGE, SOIL, SOLID OR SEDIMENT
SUBMITTER: 9699 - HERITAGE-WTI LAB SAMPLES - PLANT SAMPLES
DATA PACKAGE #: N/A
SAMPLE TYPE: ASH SLAG
FILL DATE: .
DELIVERED BY: .
COMMENT: .

PCB & PESTICIDE ACCELERATED SOLVENT EXTRACTION SW846-3545A

Analyst: J. WYLIE | Analysis Date: 05-MAY-13 08:23 | Instrument: PREP | Test: P231.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081

Analyst: J. WYLIE | Analysis Date: 05-MAY-13 08:23 | Instrument: GC/ECD | Test: O305.1.0

Parameter	Result	Det. Limit	Units
ALPHA-BHC	<	0.05	ppm
GAMMA-BHC (LINDANE)	<	0.05	ppm
BETA-BHC	<	0.05	ppm
DELTA-BHC	<	0.05	ppm
HEPTACHLOR	<	0.05	ppm
ALDRIN	<	0.05	ppm
ISODRIN	<	0.05	ppm
HEPTACHLOR EPOXIDE	<	0.05	ppm
GAMMA-CHLORDANE	<	0.05	ppm
ALPHA-CHLORDANE	<	0.05	ppm
ENDOSULFAN I	<	0.05	ppm
P,P'-DDE	<	0.06	ppm
DIELDRIN	<	0.05	ppm
ENDRIN	<	0.05	ppm

4-CHLORO-3-METHYLPHENOL	<	2	ppm
1,2,4,5-TETRACHLOROBENZENE	<	2	ppm
2,4,6-TRICHLOROPHENOL	<	2	ppm
2,4,5-TRICHLOROPHENOL	<	2	ppm
2-NITROANILINE (O-NITROANILINE)	<	2	ppm
2,4-DINITROPHENOL	<	2	ppm
PENTACHLOROBENZENE	<	2	ppm
4-NITROPHENOL	<	2	ppm
2,3,4,6-TETRACHLOROPHENOL	<	2	ppm
4-NITROANILINE (P-NITROANILINE)	<	2	ppm
4,6-DINITRO-O-CRESOL	<	2	ppm
PHORATE	<	4	ppm
DIPHENYLAMINE	<	2	ppm
PHENACETIN	<	2	ppm
PENTACHLOROPHENOL	<	2	ppm
PENTACHLORONITROBENZENE	<	2	ppm
PRONAMIDE	<	1.5	ppm
DISULFOTON	<	2	ppm
METHYL PARATHION	<	2	ppm
ETHYL PARATHION (PARATHION)	<	2	ppm
FAMPHUR	<	4	ppm
4,4'-METHYLENE-BIS(2-CHLOROANILINE)	<	10	ppm
3-METHYLCHOLANTHRENE	<	4	ppm
N-NITROSODIMETHYLAMINE	<	2	ppm
N-NITROSOMETHYLETHYLAMINE	<	2	ppm
N-NITROSODIETHYLAMINE	<	2	ppm
BIS(2-CHLOROETHYL)ETHER	<	2	ppm
1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	<	2	ppm
1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	<	2	ppm
1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	<	2	ppm
BIS(2-CHLOROISOPROPYL)ETHER	<	2	ppm
N-NITROSOPYRROLIDINE	<	2	ppm
N-NITROSO-DI-N-PROPYLAMINE	<	2	ppm
HEXACHLOROETHANE	<	2	ppm
N-NITROSOMORPHOLINE	<	2	ppm
NITROBENZENE	<	2	ppm
BIS(2-CHLOROETHOXY)METHANE	<	2	ppm
1,2,4-TRICHLOROBENZENE	<	2	ppm
NAPHTHALENE	<	2	ppm
HEXACHLOROPROPENE	<	2	ppm
HEXACHLOROBUTADIENE	<	2	ppm

2-FLUOROPHENOL	110.54		% Rec
NITROBENZENE-D5	57.31		% Rec
PHENOL-D5	115.06		% Rec
TERPHENYL-D14	0.31		% Rec
2,4,6-TRIBROMOPHENOL	165.96		% Rec

HIGH CONC. SOIL PURGE AND TRAP METHOD FOR ORGANIC ANALYTES SW846-5030B

Analyst: J. WYLIE | Analysis Date: 05-MAY-13 08:28 | Instrument: PREP | Test: P510.3.0

Parameter	Result	Det. Limit	Units
INITIAL SAMPLE WEIGHT	4		Grams
FINAL VOLUME	10		mL

APPENDIX IX VOLATILE ORGANICS, CAPILLARY COLUMN TECHNIQUE SW846-8260B

Analyst: J. WYLIE | Analysis Date: 05-MAY-13 08:28 | Instrument: GC/MS VOA | Test: O509.3.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	<	1	ppm
CHLOROMETHANE	<	1	ppm
VINYL CHLORIDE	<	1	ppm
BROMOMETHANE	<	1	ppm
CHLOROETHANE	<	1	ppm
TRICHLOROFLUOROMETHANE	<	1	ppm
1,1-DICHLOROETHENE	<	1	ppm
DICHLOROMETHANE (METHYLENE CHLORIDE)	<	1	ppm
TRANS-1,2-DICHLOROETHENE	<	1	ppm
1,1-DICHLOROETHANE	<	1	ppm
CIS-1,2-DICHLOROETHENE	<	1	ppm
CHLOROFORM	<	1	ppm
1,1,1-TRICHLOROETHANE	<	1	ppm
CARBON TETRACHLORIDE	<	1	ppm
BENZENE	<	1	ppm
1,2-DICHLOROETHANE	<	1	ppm
TRICHLOROETHENE	<	1	ppm
1,2-DICHLOROPROPANE	<	1	ppm
DIBROMOMETHANE	<	1	ppm
CIS-1,3-DICHLOROPROPENE	<	1	ppm
TOLUENE	<	1	ppm
TRANS-1,3-DICHLOROPROPENE	<	1	ppm
1,1,2-TRICHLOROETHANE	<	1	ppm
1,2-DIBROMOETHANE (EDB)	<	1	ppm
TETRACHLOROETHENE	<	1	ppm
CHLOROBENZENE	<	2	ppm
ETHYL BENZENE	<	1	ppm

CYANIDE, AMENABLE TO CHLORINATION (MANUAL) SW846-9010B

Analyst: M. KINSEY | Analysis Date: 01-MAY-13 23:24 | Test: G119.6.0

Parameter	Result	Det. Limit	Units
CYANIDE, AMENABLE	<	30	ppm

CYANIDE DISTILLATION SW846-9012B

Analyst: M. KINSEY | Analysis Date: 01-MAY-13 23:24 | Instrument: PREP | Test: P101.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	20		Grams
FINAL VOLUME	500		mL

CYANIDE, TOTAL (MANUAL) SW846-9010B

Analyst: M. KINSEY | Analysis Date: 01-MAY-13 23:24 | Test: G119.5.0

Parameter	Result	Det. Limit	Units
CYANIDE	<	1	ppm

TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311

Analyst: D. KALE | Analysis Date: 01-MAY-13 16:21 | Instrument: PREP | Test: P106.1.0

Parameter	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	100.0		Grams
LIQUID FRACTION (GRAMS)	NA		Grams
EXTRACTED SAMPLE	100.0		Grams
SOLIDS	100.0		Percent
9.5 MM SIEVE TEST	PAS		Passed
INITIAL PH	5.2		Std. Units
ADJUSTED PH	2.3		Std. Units
BUFFER SOLUTION PH	4.96		Std. Units
FINAL PH	4.0		Std. Units
VOLUME BUFFERED SOLUTION	2000		mL
VOLUME EXTRACT FILTERED	2000		mL
VOLUME LIQUID (ADD BACK)	NA		mL
TOTAL VOLUME FILTRATE	2000		mL
AMBIENT TEMPERATURE	24.2		Degrees C
INITIAL TIME	1450		Hours
FINAL TIME	0800		Hours
PHASE 0 VOLUME (REP 0)	2000		mL
PHASE 0 WEIGHT	NA		Grams
PHASE 0 DENSITY	NA		g/mL
PHASE 1 VOLUME (REP 1)	NA		mL
PHASE 1 WEIGHT	NA		Grams
PHASE 1 DENSITY	NA		g/mL

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

TCLP MERCURY CVAA SW846-7470A

Analyst: F. WHITE | Analysis Date: 02-MAY-13 13:11 | Instrument: CVAA | Test: M620.4.0

Parameter	Result	Det. Limit	Units
MERCURY	<	0.01	ppm

TCLP NICKEL ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 02-MAY-13 13:11 | Instrument: ICP | Test: M622.8.0

Parameter	Result	Det. Limit	Units
NICKEL	10.31	1	ppm

TCLP SELENIUM ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 02-MAY-13 13:11 | Instrument: ICP | Test: M628.8.0

Parameter	Result	Det. Limit	Units
SELENIUM	1.64	0.1	ppm

TCLP SILVER ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 02-MAY-13 13:12 | Instrument: ICP | Test: M630.8.0

Parameter	Result	Det. Limit	Units
SILVER	<	0.1	ppm

TCLP THALLIUM ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 02-MAY-13 13:12 | Instrument: ICP | Test: M634.8.0

Parameter	Result	Det. Limit	Units
THALLIUM	<	0.01	ppm

TCLP VANADIUM ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 02-MAY-13 13:12 | Instrument: ICP | Test: M638.8.0

Parameter	Result	Det. Limit	Units
VANADIUM	<	0.1	ppm

TCLP ZINC ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 02-MAY-13 13:12 | Instrument: ICP | Test: M639.8.0

Parameter	Result	Det. Limit	Units
ZINC	237.61	1	ppm

Sample Comments

< Less Than
NA Not Applicable
PAS Passed

HERITAGE THERMAL SERVICES

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
HERITAGE-WTI 1250 ST. GEORGE ST. EAST LIVERPOOL, OH 43920 (330)385-7813	16-MAY-13	W377841
	Completed 19-MAY-13	PO Number DO NOT BILL
	Printed 29-JUL-13	Sampled 16-MAY-13 06:25

Report To

DON VENTURINI
HERITAGE-WTI, INC
1250 ST GEORGE STREET
EAST LIVERPOOL, OH 43920-3400

Sample Description

CLIENT ID: A13385
MATRIX TYPE: SLUDGE, SOIL, SOLID OR SEDIMENT
SUBMITTER: 9699 - HERITAGE-WTI LAB SAMPLES - PLANT SAMPLES
DATA PACKAGE #: N/A
SAMPLE TYPE: ASH SLAG
FILL DATE: .
DELIVERED BY: .
COMMENT: .

PCB & PESTICIDE ACCELERATED SOLVENT EXTRACTION SW846-3545A

Analyst: M. KINSEY | Analysis Date: 19-MAY-13 10:55 | Instrument: PREP | Test: P231.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081

Analyst: M. KINSEY | Analysis Date: 19-MAY-13 10:56 | Instrument: GC/ECD | Test: O305.1.0

Parameter	Result	Det. Limit	Units
GAMMA-BHC (LINDANE)	<	0.05	ppm
DELTA-BHC	<	0.05	ppm
HEPTACHLOR	<	0.05	ppm
ALDRIN	<	0.05	ppm
HEPTACHLOR EPOXIDE	<	0.05	ppm
GAMMA-CHLORDANE	<	0.05	ppm
ALPHA-CHLORDANE	<	0.05	ppm
P,P'-DDE	<	0.05	ppm
DIELDRIN	<	0.05	ppm
ENDRIN	<	0.05	ppm
ENDOSULFAN II	<	0.05	ppm
P,P'-DDT	<	0.05	ppm
ENDRIN ALDEHYDE	<	0.05	ppm
METHOXYCHLOR	<	0.05	ppm

FLUORANTHENE	<	3.4	ppm
PYRENE	<	8.2	ppm
DI-N-OCTYLPHTHALATE	<	28	ppm
BENZO(A)PYRENE	<	3.4	ppm
CARBARYL	<	0.14	ppm
2-SEC-BUTYL-4,6-DINITROPHENOL (DINOSEB)	<	2.5	ppm
3-METHYLPHENOL/4-METHYLPHENOL (M/P-CRESOL)	<	2	ppm
...			
SURROGATE RECOVERY			

2-FLUOROBIPHENYL	22.0		% Rec
2-FLUOROPHENOL	42.5		% Rec
NITROBENZENE-D5	15.1		% Rec
PHENOL-D5	45.1		% Rec
TERPHENYL-D14	2.75		% Rec
2,4,6-TRIBROMOPHENOL	71.0		% Rec

HIGH CONC. SOIL PURGE AND TRAP METHOD FOR ORGANIC ANALYTES SW846-5030B

Analyst: M. KINSEY Analysis Date: 18-MAY-13 19:22 Instrument: PREP Test: P510.3.0

Parameter	Result	Det. Limit	Units
INITIAL SAMPLE WEIGHT	4		Grams
FINAL VOLUME	10		mL

APPENDIX IX VOLATILE ORGANICS, CAPILLARY COLUMN TECHNIQUE SW846-8260B

Analyst: M. KINSEY Analysis Date: 18-MAY-13 19:23 Instrument: GC/MS VOA Test: O509.3.0

Parameter	Result	Det. Limit	Units
CHLOROMETHANE	<	1	ppm
VINYL CHLORIDE	<	1	ppm
1,1-DICHLOROETHENE	<	1	ppm
1,1-DICHLOROETHANE	<	1	ppm
CHLOROFORM	<	1	ppm
CARBON TETRACHLORIDE	<	1	ppm
BENZENE	<	1	ppm
TRICHLOROETHENE	<	1	ppm
1,2-DICHLOROPROPANE	<	1	ppm
TOLUENE	<	1	ppm
CHLOROBENZENE	<	1	ppm
ETHYL BENZENE	<	1	ppm
M/P-XYLENE	<	1	ppm
O-XYLENE	<	1	ppm
1,1,2,2-TETRACHLOROETHANE	<	1	ppm
...			

VOLUME EXTRACT FILTERED	2000		mL
VOLUME LIQUID (ADD BACK)	NA		mL
TOTAL VOLUME FILTRATE	2000		mL
AMBIENT TEMPERATURE	24.0		Degrees C
INITIAL TIME	1450		Hours
FINAL TIME	0800		Hours
PHASE 0 VOLUME (REP 0)	2000		mL
PHASE 0 WEIGHT	NA		Grams
PHASE 0 DENSITY	NA		g/mL
PHASE 1 VOLUME (REP 1)	NA		mL
PHASE 1 WEIGHT	NA		Grams
PHASE 1 DENSITY	NA		g/mL

FAA OR ICP ACID DIGESTION (LEACHATE) SW846-3010A

Analyst: D. KALE | Analysis Date: 16-MAY-13 16:15 | Instrument: PREP | Test: P130.8.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	45		mL
FINAL VOLUME	100		mL

TCLP ANTIMONY ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 17-MAY-13 13:34 | Instrument: ICP | Test: M602.8.0

Parameter	Result	Det. Limit	Units
ANTIMONY	<	1	ppm

TCLP ARSENIC ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 17-MAY-13 13:34 | Instrument: ICP | Test: M603.8.0

Parameter	Result	Det. Limit	Units
ARSENIC	<	1	ppm

TCLP BARIUM ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 17-MAY-13 13:34 | Instrument: ICP | Test: M604.8.0

Parameter	Result	Det. Limit	Units
BARIUM	<	1	ppm

TCLP BERYLLIUM ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 17-MAY-13 13:34 | Instrument: ICP | Test: M605.8.0

Parameter	Result	Det. Limit	Units
BERYLLIUM	<	0.005	ppm

TCLP CADMIUM ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 17-MAY-13 13:34 | Instrument: ICP | Test: M608.8.0

Parameter	Result	Det. Limit	Units

HERITAGE THERMAL SERVICES

Sample ID: W377841 A13385

TCLP VANADIUM ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 17-MAY-13 13:34 | Instrument: ICP | Test: M638.8.0

Parameter	Result	Det. Limit	Units
VANADIUM	<	0.1	ppm

TCLP ZINC ICP SW846-6010B

Analyst: F. WHITE | Analysis Date: 17-MAY-13 13:34 | Instrument: ICP | Test: M639.8.0

Parameter	Result	Det. Limit	Units
ZINC	362.99	1	ppm

Sample Comments

< Less Than
NA Not Applicable
PAS Passed

Approved by: 7/31/13

HERITAGE THERMAL SERVICES

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
HERITAGE-WTI 1250 ST. GEORGE ST. EAST LIVERPOOL, OH 43920 (330)385-7813	02-JUN-13	W378797
	Completed 05-JUN-13	PO Number DO NOT BILL
	Printed 29-JUL-13	Sampled 02-JUN-13 10:47

Report To

DON VENTURINI
HERITAGE-WTI, INC
1250 ST GEORGE STREET
EAST LIVERPOOL, OH 43920-3400

Sample Description

CLIENT ID: A13381
MATRIX TYPE: SLUDGE, SOIL, SOLID OR SEDIMENT
SUBMITTER: 9699 - HERITAGE-WTI LAB SAMPLES - PLANT SAMPLES
DATA PACKAGE #: N/A
SAMPLE TYPE: ASH SLAG
FILL DATE: .
DELIVERED BY: .
COMMENT: .

PCB & PESTICIDE ACCELERATED SOLVENT EXTRACTION SW846-3545A

Analyst: M. KINSEY | Analysis Date: 04-JUN-13 12:42 | Instrument: PREP | Test: P231 6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081

Analyst: M. KINSEY | Analysis Date: 04-JUN-13 12:42 | Instrument: GC/ECD | Test: O305 1.0

Parameter	Result	Det. Limit	Units
GAMMA-BHC (LINDANE)	<	0.05	ppm
DELTA-BHC	<	0.05	ppm
HEPTACHLOR	<	0.05	ppm
ALDRIN	<	0.05	ppm
HEPTACHLOR EPOXIDE	<	0.05	ppm
GAMMA-CHLORDANE	<	0.05	ppm
ALPHA-CHLORDANE	<	0.05	ppm
P,P'-DDE	<	0.05	ppm
DIELDRIN	<	0.05	ppm
ENDRIN	<	0.05	ppm
ENDOSULFAN II	<	0.05	ppm
P,P'-DDT	<	0.05	ppm
ENDRIN ALDEHYDE	<	0.05	ppm
METHOXYCHLOR	<	0.05	ppm

ENDRIN KETONE	<	0.05	ppm
2,4'-DDE	<	0.065	ppm
SUMMATION OF AROCLORS	<	10	ppm
...			
SURROGATE RECOVERY			

TETRACHLORO-M-XYLENE	.416		% Rec
DECACHLOROBIPHENYL (DCB)	.458		% Rec

WTI - ACCELERATED SOLVENT EXTRACTION FOR ORGANICS SW846-3545A

Analyst: J. WYLIE | Analysis Date: 04-JUN-13 15:12 | Instrument: PREP | Test: P236.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	1		mL

APPENDIX IX SEMIVOLATILE ORGANICS SW846-8270C

Analyst: J. WYLIE | Analysis Date: 04-JUN-13 15:13 | Instrument: GC/MS SVOA | Test: O508.3.0

Parameter	Result	Det. Limit	Units
ANILINE	<	14	ppm
PHENOL	<	6.2	ppm
2-CHLOROPHENOL	<	5.7	ppm
2-NITROPHENOL	<	13	ppm
2,4-DICHLOROPHENOL	<	14	ppm
4-CHLORO-3-METHYLPHENOL	<	14	ppm
2,4,6-TRICHLOROPHENOL	<	7.4	ppm
2-NITROANILINE (O-NITROANILINE)	<	14	ppm
2,4-DINITROPHENOL	<	160	ppm
4-NITROPHENOL	<	29	ppm
PHORATE	<	4.6	ppm
PENTACHLOROPHENOL	<	7.4	ppm
1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	<	6	ppm
1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	<	6	ppm
1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	<	6	ppm
N-NITROSO-DI-N-PROPYLAMINE	<	14	ppm
1,2,4-TRICHLOROBENZENE	<	19	ppm
NAPHTHALENE	<	5.6	ppm
HEXACHLOROBUTADIENE	<	5.6	ppm
HEXACHLOROCYCLOPENTADIENE	<	2.4	ppm
ACENAPHTHENE	<	3.4	ppm
2,4-DINITROTOLUENE	<	140	ppm
N-NITROSODIPHENYLAMINE	<	13	ppm
ANTHRACENE	<	3.4	ppm

4-BROMOFLUOROBENZENE	30.47		% Rec
DIBROMOFLUOROMETHANE	120.60		% Rec
DICHLOROETHANE-D4	155.30		% Rec
TOLUENE-D8	55.17		% Rec

CYANIDE AMENABLE DISTILLATION SW846-9012B

Analyst: J. WYLIE | Analysis Date: 02-JUN-13 17:41 | Instrument: PREP | Test: P111.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	20		Grams
FINAL VOLUME	500		mL

CYANIDE, AMENABLE TO CHLORINATION (MANUAL) SW846-9010B

Analyst: J. WYLIE | Analysis Date: 02-JUN-13 17:40 | Test: G119.6.0

Parameter	Result	Det. Limit	Units
CYANIDE, AMENABLE	<	30	ppm

CYANIDE DISTILLATION SW846-9012B

Analyst: J. WYLIE | Analysis Date: 02-JUN-13 17:41 | Instrument: PREP | Test: P101.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	250		Grams
FINAL VOLUME	250		mL

CYANIDE, TOTAL (MANUAL) SW846-9010B

Analyst: J. WYLIE | Analysis Date: 02-JUN-13 17:40 | Test: G119.5.0

Parameter	Result	Det. Limit	Units
CYANIDE	<	1	ppm

TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311

Analyst: D. KALE | Analysis Date: 03-JUN-13 10:30 | Instrument: PREP | Test: P106.1.0

Parameter	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	100.0		Grams
LIQUID FRACTION (GRAMS)	NA		Grams
EXTRACTED SAMPLE	100.0		Grams
SOLIDS	100.0		Percent
9.5 MM SIEVE TEST	PAS		Passed
INITIAL PH	3.8		Std. Units
ADJUSTED PH	NA		Std. Units
BUFFER SOLUTION PH	4.89		Std. Units
FINAL PH	4.7		Std. Units
VOLUME BUFFERED SOLUTION	2000		mL
VOLUME EXTRACT FILTERED	2000		mL
VOLUME LIQUID (ADD BACK)	NA		mL

HERITAGE THERMAL SERVICES

Sample ID: W378797 A13381

TCLP CHROMIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: ICP | Test: M610.8.0

Parameter	Result	Det. Limit	Units
CHROMIUM	<	0.5	ppm

TCLP LEAD ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: ICP | Test: M616.8.0

Parameter	Result	Det. Limit	Units
LEAD	4.68	0.1	ppm

MERCURY CVAA ACID DIGESTION (LEACHATE) SW846-7470A

Analyst: D. KALE | Analysis Date: 03-JUN-13 10:30 | Instrument: PREP | Test: P131.9.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

TCLP MERCURY CVAA SW846-7470A

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: CVAA | Test: M620.4.0

Parameter	Result	Det. Limit	Units
MERCURY	<	0.01	ppm

TCLP NICKEL ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: ICP | Test: M622.8.0

Parameter	Result	Det. Limit	Units
NICKEL	5.06	1	ppm

TCLP SELENIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: ICP | Test: M628.8.0

Parameter	Result	Det. Limit	Units
SELENIUM	<	0.1	ppm

TCLP SILVER ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: ICP | Test: M630.8.0

Parameter	Result	Det. Limit	Units
SILVER	<	0.1	ppm

TCLP THALLIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: ICP | Test: M634.8.0

Parameter	Result	Det. Limit	Units
THALLIUM	<	0.01	ppm

TCLP VANADIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 03-JUN-13 14:33 | Instrument: ICP | Test: M638.8.0

HERITAGE THERMAL SERVICES

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
HERITAGE-WTI 1250 ST. GEORGE ST. EAST LIVERPOOL, OH 43920 (330)385-7813	15-JUN-13	W379578
	Completed 18-JUN-13	PO Number DO NOT BILL
	Printed 29-JUL-13	Sampled 15-JUN-13 10:12

Report To

DON VENTURINI
HERITAGE-WTI, INC
1250 ST GEORGE STREET
EAST LIVERPOOL, OH 43920-3400

Sample Description

CLIENT ID: A13394
MATRIX TYPE: SLUDGE, SOIL, SOLID OR SEDIMENT
SUBMITTER: 9699 - HERITAGE-WTI LAB SAMPLES - PLANT SAMPLES
DATA PACKAGE #: N/A
SAMPLE TYPE: ASH SLAG
FILL DATE: .
DELIVERED BY: .
COMMENT: .

PCB & PESTICIDE ACCELERATED SOLVENT EXTRACTION SW846-3545A

Analyst: M. KINSEY | Analysis Date: 16-JUN-13 21:46 | Instrument: PREP | Test: P231.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081

Analyst: M. KINSEY | Analysis Date: 16-JUN-13 21:47 | Instrument: GC/ECD | Test: O305.1.0

Parameter	Result	Det. Limit	Units
GAMMA-BHC (LINDANE)	<	0.05	ppm
DELTA-BHC	<	0.05	ppm
HEPTACHLOR	<	0.05	ppm
ALDRIN	<	0.05	ppm
HEPTACHLOR EPOXIDE	<	0.05	ppm
GAMMA-CHLORDANE	<	0.05	ppm
ALPHA-CHLORDANE	<	0.05	ppm
P,P'-DDE	<	0.05	ppm
DIELDRIN	<	0.05	ppm
ENDRIN	<	0.05	ppm
ENDOSULFAN II	<	0.05	ppm
P,P'-DDT	<	0.05	ppm
ENDRIN ALDEHYDE	<	0.05	ppm
METHOXYCHLOR	<	0.05	ppm

FLUORANTHENE	<	3.4	ppm
PYRENE	<	8.2	ppm
DI-N-OCTYLPHTHALATE	<	28	ppm
BENZO(A)PYRENE	<	3.4	ppm
CARBARYL	<	0.14	ppm
...			
SURROGATE RECOVERY			
2-FLUOROBIPHENYL	68.1		% Rec
2-FLUOROPHENOL	115		% Rec
NITROBENZENE-D5	65.1		% Rec
PHENOL-D5	131		% Rec
TERPHENYL-D14	0.29		% Rec
2,4,6-TRIBROMOPHENOL	164		% Rec

HIGH CONC. SOIL PURGE AND TRAP METHOD FOR ORGANIC ANALYTES SW846-5030B

Analyst: M. KINSEY Analysis Date: 16-JUN-13 21:49 Instrument: PREP Test: P510.3.0

Parameter	Result	Det. Limit	Units
INITIAL SAMPLE WEIGHT	4		Grams
FINAL VOLUME	10		mL

APPENDIX IX VOLATILE ORGANICS, CAPILLARY COLUMN TECHNIQUE SW846-8260B

Analyst: M. KINSEY Analysis Date: 16-JUN-13 21:51 Instrument: GC/MS VOA Test: O509.3.0

Parameter	Result	Det. Limit	Units
CHLOROMETHANE	<	1	ppm
VINYL CHLORIDE	<	1	ppm
1,1-DICHLOROETHENE	<	1	ppm
1,1-DICHLOROETHANE	<	1	ppm
CHLOROFORM	<	1	ppm
CARBON TETRACHLORIDE	<	1	ppm
BENZENE	<	1	ppm
TRICHLOROETHENE	<	1	ppm
1,2-DICHLOROPROPANE	<	1	ppm
TOLUENE	<	1	ppm
CHLOROBENZENE	<	1	ppm
ETHYL BENZENE	<	1	ppm
M/P-XYLENE	<	1	ppm
O-XYLENE	<	1	ppm
1,1,2,2-TETRACHLOROETHANE	<	1	ppm
...			
SURROGATE RECOVERY			

TOTAL VOLUME FILTRATE	2000		mL
AMBIENT TEMPERATURE	23.1		Degrees C
INITIAL TIME	1525		Hours
FINAL TIME	0925		Hours
PHASE 0 VOLUME (REP 0)	2000		mL
PHASE 0 WEIGHT	NA		Grams
PHASE 0 DENSITY	NA		g/mL
PHASE 1 VOLUME (REP 1)	NA		mL
PHASE 1 WEIGHT	NA		Grams
PHASE 1 DENSITY	NA		g/mL

FAA OR ICP ACID DIGESTION (LEACHATE) SW846-3010A

Analyst: D. KALE | Analysis Date: 16-JUN-13 18:41 | Instrument: PREP | Test: P130.8.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	45		mL
FINAL VOLUME	100		mL

TCLP ANTIMONY ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 16-JUN-13 18:41 | Instrument: ICP | Test: M602.8.0

Parameter	Result	Det. Limit	Units
ANTIMONY	1.45	1	ppm

TCLP ARSENIC ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 16-JUN-13 18:41 | Instrument: ICP | Test: M603.8.0

Parameter	Result	Det. Limit	Units
ARSENIC	4.52	1	ppm

TCLP BARIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 16-JUN-13 18:41 | Instrument: ICP | Test: M604.8.0

Parameter	Result	Det. Limit	Units
BARIUM	<	1	ppm

TCLP BERYLLIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 16-JUN-13 18:41 | Instrument: ICP | Test: M605.8.0

Parameter	Result	Det. Limit	Units
BERYLLIUM	0.007	0.005	ppm

TCLP CADMIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 16-JUN-13 18:41 | Instrument: ICP | Test: M608.8.0

Parameter	Result	Det. Limit	Units
CADMIUM	15.08	0.05	ppm

HERITAGE THERMAL SERVICES

Sample ID: W379578 A13394

Parameter	Result	Det. Limit	Units
VANADIUM	0.10	0.1	ppm

TCLP ZINC ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 16-JUN-13 18:41 | Instrument: ICP | Test: M639.8.0

Parameter	Result	Det. Limit	Units
ZINC	375.40	1	ppm

PAINT FILTER TEST SW846-9095

Analyst: J. WYLIE | Analysis Date: 18-JUN-13 11:06 | Test: G103.1.0

Parameter	Result	Det. Limit	Units
PAINT FILTER LIQUID (TOTAL ML AFTER 5 MINUTES)	PAS		mL
INITIAL SAMPLE WEIGHT	100		Grams

PH (S/S/S) SW846-9045C

Analyst: J. WYLIE | Analysis Date: 18-JUN-13 11:06 | Test: G624.0.0

Parameter	Result	Det. Limit	Units
PH	3.9	0.1	Std. Units

Sample Comments

< Less Than
NA Not Applicable
PAS Passed

Approved by:

HERITAGE THERMAL SERVICES

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
HERITAGE-WTI 1250 ST. GEORGE ST. EAST LIVERPOOL, OH 43920 (330)385-7813	15-JUL-13	W381244
	Completed 29-JUL-13	PO Number DO NOT BILL
	Printed 29-JUL-13	Sampled 15-JUL-13 10:13

Report To

DON VENTURINI
HERITAGE-WTI, INC
1250 ST GEORGE STREET
EAST LIVERPOOL, OH 43920-3400

Sample Description

CLIENT ID: A13435
MATRIX TYPE: SLUDGE, SOIL, SOLID OR SEDIMENT
SUBMITTER: 9699 - HERITAGE-WTI LAB SAMPLES - PLANT SAMPLES
DATA PACKAGE #: N/A
SAMPLE TYPE: ASH SLAG
FILL DATE: .
DELIVERED BY: .
COMMENT: .

PCB & PESTICIDE ACCELERATED SOLVENT EXTRACTION SW846-3545A

Analyst: M. KINSEY | Analysis Date: 16-JUL-13 13:28 | Instrument: PREP | Test: P231.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081

Analyst: M. KINSEY | Analysis Date: 16-JUL-13 13:28 | Instrument: GC/ECD | Test: O305.1.0

Parameter	Result	Det. Limit	Units
GAMMA-BHC (LINDANE)	<	0.05	ppm
DELTA-BHC	<	0.05	ppm
HEPTACHLOR	<	0.05	ppm
ALDRIN	<	0.05	ppm
HEPTACHLOR EPOXIDE	<	0.05	ppm
GAMMA-CHLORDANE	<	0.05	ppm
ALPHA-CHLORDANE	<	0.05	ppm
P,P'-DDE	<	0.05	ppm
DIELDRIN	<	0.05	ppm
ENDRIN	<	0.05	ppm
ENDOSULFAN II	<	0.05	ppm
P,P'-DDT	<	0.05	ppm
ENDRIN ALDEHYDE	<	0.05	ppm
METHOXYCHLOR	<	0.05	ppm

ENDRIN KETONE	<	0.05	ppm
2,4'-DDE	<	0.065	ppm
SUMMATION OF AROCLORS	<	10	ppm
...			
SURROGATE RECOVERY			
TETRACHLORO-M-XYLENE	.614		% Rec
DECACHLOROBIPHENYL (DCB)	.507		% Rec

WTI - ACCELERATED SOLVENT EXTRACTION FOR ORGANICS SW846-3545A

Analyst: J. WYLIE | Analysis Date: 16-JUL-13 11:12 | Instrument: PREP | Test: P236.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	1		mL

APPENDIX IX SEMIVOLATILE ORGANICS SW846-8270C

Analyst: J. WYLIE | Analysis Date: 16-JUL-13 11:13 | Instrument: GC/MS SVOA | Test: O508.3.0

Parameter	Result	Det. Limit	Units
ANILINE	<	14	ppm
PHENOL	<	6.2	ppm
2-CHLOROPHENOL	<	5.7	ppm
2-NITROPHENOL	<	13	ppm
2,4-DICHLOROPHENOL	<	14	ppm
4-CHLORO-3-METHYLPHENOL	<	14	ppm
2,4,6-TRICHLOROPHENOL	<	7.4	ppm
2-NITROANILINE (O-NITROANILINE)	<	14	ppm
2,4-DINITROPHENOL	<	160	ppm
4-NITROPHENOL	<	29	ppm
PHORATE	<	4.6	ppm
PENTACHLOROPHENOL	<	7.4	ppm
1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	<	6	ppm
1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	<	6	ppm
1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	<	6	ppm
N-NITROSO-DI-N-PROPYLAMINE	<	14	ppm
1,2,4-TRICHLOROBENZENE	<	19	ppm
NAPHTHALENE	<	5.6	ppm
HEXACHLOROBUTADIENE	<	5.6	ppm
HEXACHLOROCYCLOPENTADIENE	<	2.4	ppm
ACENAPHTHENE	<	3.4	ppm
2,4-DINITROTOLUENE	<	140	ppm
N-NITROSODIPHENYLAMINE	<	13	ppm
ANTHRACENE	<	3.4	ppm

4-BROMOFLUOROBENZENE	25.79		% Rec
DIBROMOFLUOROMETHANE	122.79		% Rec
DICHLOROETHANE-D4	171.28		% Rec
TOLUENE-D8	51.76		% Rec

CYANIDE AMENABLE DISTILLATION SW846-9012B

Analyst: J. MUMAW | Analysis Date: 15-JUL-13 23:47 | Instrument: PREP | Test: P111.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	20		Grams
FINAL VOLUME	500		mL

CYANIDE, AMENABLE TO CHLORINATION (MANUAL) SW846-9010B

Analyst: J. MUMAW | Analysis Date: 15-JUL-13 23:47 | Test: G119.6.0

Parameter	Result	Det. Limit	Units
CYANIDE, AMENABLE	<	30	ppm

CYANIDE DISTILLATION SW846-9012B

Analyst: J. MUMAW | Analysis Date: 15-JUL-13 23:47 | Instrument: PREP | Test: P101.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	20		Grams
FINAL VOLUME	500		mL

CYANIDE, TOTAL (MANUAL) SW846-9010B

Analyst: J. MUMAW | Analysis Date: 15-JUL-13 23:47 | Test: G119.5.0

Parameter	Result	Det. Limit	Units
CYANIDE	<	1	ppm

TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:24 | Instrument: PREP | Test: P106.1.0

Parameter	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	100		Grams
LIQUID FRACTION (GRAMS)	NA		Grams
EXTRACTED SAMPLE	100		Grams
SOLIDS	100		Percent
9.5 MM SIEVE TEST	PAS		Passed
INITIAL PH	3.9		Std. Units
ADJUSTED PH	NA		Std. Units
BUFFER SOLUTION PH	4.95		Std. Units
FINAL PH	4.9		Std. Units
VOLUME BUFFERED SOLUTION	2000		mL
VOLUME EXTRACT FILTERED	2000		mL
VOLUME LIQUID (ADD BACK)	NA		mL

HERITAGE THERMAL SERVICES

Sample ID: W381244 A13435

TCLP CHROMIUM ICP SW846-6010B

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: ICP | Test: M610.8.0

Parameter	Result	Det. Limit	Units
CHROMIUM	<	0.5	ppm

TCLP LEAD ICP SW846-6010B

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: ICP | Test: M616.8.0

Parameter	Result	Det. Limit	Units
LEAD	11.81	0.1	ppm

MERCURY CVAA ACID DIGESTION (LEACHATE) SW846-7470A

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: PREP | Test: P131.9.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

TCLP MERCURY CVAA SW846-7470A

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: CVAA | Test: M620.4.0

Parameter	Result	Det. Limit	Units
MERCURY	<	0.01	ppm

TCLP NICKEL ICP SW846-6010B

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: ICP | Test: M622.8.0

Parameter	Result	Det. Limit	Units
NICKEL	1.09	1	ppm

TCLP SELENIUM ICP SW846-6010B

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: ICP | Test: M628.8.0

Parameter	Result	Det. Limit	Units
SELENIUM	<	0.1	ppm

TCLP SILVER ICP SW846-6010B

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: ICP | Test: M630.8.0

Parameter	Result	Det. Limit	Units
SILVER	<	0.1	ppm

TCLP THALLIUM ICP SW846-6010B

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: ICP | Test: M634.8.0

Parameter	Result	Det. Limit	Units
THALLIUM	<	0.01	ppm

TCLP VANADIUM ICP SW846-6010B

Analyst: J. WYLIE | Analysis Date: 17-JUL-13 08:25 | Instrument: ICP | Test: M638.8.0

HERITAGE THERMAL SERVICES

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
HERITAGE-WTI 1250 ST. GEORGE ST. EAST LIVERPOOL, OH 43920 (330)385-7813	01-JUL-13	W380441
	Completed 03-JUL-13	PO Number DO NOT BILL
	Printed 29-JUL-13	Sampled 01-JUL-13 14:15

Report To

DON VENTURINI
HERITAGE-WTI, INC
1250 ST GEORGE STREET
EAST LIVERPOOL, OH 43920-3400

Sample Description

CLIENT ID: A13422
MATRIX TYPE: SLUDGE, SOIL, SOLID OR SEDIMENT
SUBMITTER: 9699 - HERITAGE-WTI LAB SAMPLES - PLANT SAMPLES
DATA PACKAGE #: N/A
SAMPLE TYPE: ASH SLAG
FILL DATE: .
DELIVERED BY: .
COMMENT: .

PCB & PESTICIDE ACCELERATED SOLVENT EXTRACTION SW846-3545A

Analyst: J. WYLIE | Analysis Date: 02-JUL-13 13:02 | Instrument: PREP | Test: P231.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081

Analyst: J. WYLIE | Analysis Date: 02-JUL-13 13:02 | Instrument: GC/ECD | Test: O305.1.0

Parameter	Result	Det. Limit	Units
ALPHA-BHC	<	0.05	ppm
GAMMA-BHC (LINDANE)	<	0.05	ppm
BETA-BHC	<	0.05	ppm
DELTA-BHC	<	0.05	ppm
HEPTACHLOR	<	0.05	ppm
ALDRIN	<	0.05	ppm
ISODRIN	<	0.05	ppm
HEPTACHLOR EPOXIDE	<	0.05	ppm
GAMMA-CHLORDANE	<	0.05	ppm
ALPHA-CHLORDANE	<	0.05	ppm
ENDOSULFAN I	<	0.05	ppm
P,P'-DDE	<	0.06	ppm
DIELDRIN	<	0.05	ppm
ENDRIN	<	0.05	ppm

P,P'-DDD	<	0.05	ppm
ENDOSULFAN II	<	0.05	ppm
P,P'-DDT	<	0.05	ppm
ENDRIN ALDEHYDE	<	0.06	ppm
ENDOSULFAN SULFATE	<	0.05	ppm
METHOXYCHLOR	<	0.1	ppm
ENDRIN KETONE	<	0.05	ppm
2,4'-DDE	<	0.065	ppm
2,4'-DDD	<	0.05	ppm
2,4'-DDT	<	0.05	ppm
TOXAPHENE	<	1	ppm
SUMMATION OF AROCLORS	<	10	ppm
...			
SURROGATE RECOVERY			

TETRACHLORO-M-XYLENE	0.282		% Rec
DECACHLOROBIPHENYL (DCB)	0.611		% Rec

WTI - ACCELERATED SOLVENT EXTRACTION FOR ORGANICS SW846-3545A

Analyst: J. WYLIE | Analysis Date: 02-JUL-13 15:11 | Instrument: PREP | Test: P236.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	1		mL

APPENDIX IX SEMIVOLATILE ORGANICS SW846-8270C

Analyst: J. WYLIE | Analysis Date: 02-JUL-13 15:12 | Instrument: GC/MS SVOA | Test: O508.3.0

Parameter	Result	Det. Limit	Units
PYRIDINE	<	2	ppm
ANILINE	<	2	ppm
PHENOL	<	2	ppm
PENTACHLOROETHANE	<	2	ppm
2-CHLOROPHENOL	<	2	ppm
2-METHYLPHENOL (O-CRESOL)	<	2	ppm
ACETOPHENONE	<	2	ppm
N-NITROSOPIPERIDINE	<	2	ppm
2-NITROPHENOL	<	2	ppm
BENZAL CHLORIDE	<	2	ppm
2,4-DIMETHYLPHENOL	<	2	ppm
2,4-DICHLOROPHENOL	<	2	ppm
4-CHLOROANILINE	<	2	ppm
2,6-DICHLOROPHENOL	<	2	ppm
N-NITROSODI-N-BUTYLAMINE	<	2	ppm

SAFROLE	<	2	ppm
HEXACHLOROCYCLOPENTADIENE	<	2	ppm
ISOSAFROLE	<	2	ppm
2-CHLORONAPHTHALENE	<	2	ppm
DIMETHYLPHTHALATE	<	2	ppm
2,6-DINITROTOLUENE	<	2	ppm
ACENAPHTHYLENE	<	2	ppm
ACENAPHTHENE	<	2	ppm
2,4-DINITROTOLUENE	<	2	ppm
DIETHYLPHTHALATE	<	2	ppm
FLUORENE	<	2	ppm
5-NITRO-O-TOLUIDINE	<	2	ppm
N-NITROSODIPHENYLAMINE	<	2	ppm
4-BROMODIPHENYL ETHER	<	2	ppm
HEXACHLOROBENZENE	<	2	ppm
PHENANTHRENE	<	2	ppm
ANTHRACENE	<	2	ppm
DI-N-BUTYLPHTHALATE	<	2	ppm
METHAPYRILENE	<	1.5	ppm
FLUORANTHENE	<	2	ppm
PYRENE	<	2	ppm
BENZYLBUTYLPHTHALATE (BUTYLBENZYLPHTHALATE)	<	2	ppm
2-ACETYLAMINOFLUORENE	<	2	ppm
BENZO(A)ANTHRACENE	<	2	ppm
BIS(2-ETHYLHEXYL)PHTHALATE	<	2	ppm
CHRYSENE	<	2	ppm
BENZO(K)FLUORANTHENE	<	2	ppm
BENZO(B)FLUORANTHENE (3,4-BENZOFLUORANTHENE)	<	2	ppm
DI-N-OCTYLPHTHALATE	<	2	ppm
BENZO(A)PYRENE	<	2	ppm
INDENO(1,2,3-CD)PYRENE	<	2	ppm
DIBENZ(A,H)ANTHRACENE	<	2	ppm
BENZO(G,H,I)PERYLENE	<	1.8	ppm
PHTHALIC ANHYDRIDE	<	28	ppm
CARBARYL	<	0.14	ppm
2-SEC-BUTYL-4,6-DINITROPHENOL (DINOSEB)	<	2.5	ppm
3-METHYLPHENOL/4-METHYLPHENOL (M/P-CRESOL)	<	2	ppm
...			
SURROGATE RECOVERY			
2-FLUOROBIPHENYL	91.14		% Rec

1,1,1,2-TETRACHLOROETHANE	<	1	ppm
M/P-XYLENE	<	2	ppm
O-XYLENE	<	2	ppm
BROMOFORM	<	1	ppm
1,1,2,2-TETRACHLOROETHANE	<	1	ppm
1,2,3-TRICHLOROPROPANE	<	1	ppm
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	<	1	ppm
BROMODICHLOROMETHANE	<	1	ppm
CHLORODIBROMOMETHANE	<	1	ppm
ETHYL ETHER	<	4	ppm
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	1	ppm
ACETONE (2-PROPANONE)	<	17	ppm
ACETONITRILE	<	2	ppm
IODOMETHANE	<	2	ppm
3-CHLOROPROPENE (ALLYL CHLORIDE)	<	4	ppm
CARBON DISULFIDE	<	2	ppm
ACRYLONITRILE	<	4	ppm
2-CHLORO-1,3-BUTADIENE (CHLOROPRENE)	<	28	ppm
2-BUTANONE	<	11	ppm
ETHYL CYANIDE (PROPIONITRILE)	<	3	ppm
ETHYL ACETATE	<	4	ppm
METHYLACRYLONITRILE	<	2	ppm
N-BUTANOL	<	2.6	ppm
METHYL METHACRYLATE	<	3	ppm
1,4-DIOXANE	<	6	ppm
4-METHYL-2-PENTANONE	<	17	ppm
ETHYL METHACRYLATE	<	8	ppm
ISOBUTANOL (ISOBUTYL ALCOHOL)	<	4	ppm
...			
SURROGATE RECOVERY			

4-BROMOFLUOROBENZENE	49.32		% Rec
DIBROMOFLUOROMETHANE	131.24		% Rec
DICHLOROETHANE-D4	181.92		% Rec
TOLUENE-D8	83.15		% Rec

CYANIDE AMENABLE DISTILLATION SW846-9012B

Analyst: J. WYLIE | Analysis Date: 02-JUL-13 14:59 | Instrument: PREP | Test: P111.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	20		Grams
FINAL VOLUME	500		mL

HERITAGE THERMAL SERVICES

Sample ID: W380441 A13422

FAA OR ICP ACID DIGESTION (LEACHATE) SW846-3010A

Analyst: D. KALE | Analysis Date: 02-JUL-13 14:17 | Instrument: PREP | Test: P130.8.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	45		mL
FINAL VOLUME	100		mL

TCLP ANTIMONY ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 02-JUL-13 15:53 | Instrument: ICP | Test: M602.8.0

Parameter	Result	Det. Limit	Units
ANTIMONY	1.03	1	ppm

TCLP ARSENIC ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 02-JUL-13 15:53 | Instrument: ICP | Test: M603.8.0

Parameter	Result	Det. Limit	Units
ARSENIC	<	1	ppm

TCLP BARIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 02-JUL-13 15:53 | Instrument: ICP | Test: M604.8.0

Parameter	Result	Det. Limit	Units
BARIUM	<	1	ppm

TCLP BERYLLIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 02-JUL-13 15:53 | Instrument: ICP | Test: M605.8.0

Parameter	Result	Det. Limit	Units
BERYLLIUM	0.02	0.005	ppm

TCLP CADMIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 02-JUL-13 15:53 | Instrument: ICP | Test: M608.8.0

Parameter	Result	Det. Limit	Units
CADMIUM	3.72	0.05	ppm

TCLP CHROMIUM ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 02-JUL-13 15:53 | Instrument: ICP | Test: M610.8.0

Parameter	Result	Det. Limit	Units
CHROMIUM	<	0.5	ppm

TCLP LEAD ICP SW846-6010B

Analyst: D. KALE | Analysis Date: 02-JUL-13 15:53 | Instrument: ICP | Test: M616.8.0

Parameter	Result	Det. Limit	Units
LEAD	8.64	0.1	ppm

MERCURY CVAA ACID DIGESTION (LEACHATE) SW846-7470A

Analyst: D. KALE | Analysis Date: 02-JUL-13 14:17 | Instrument: PREP | Test: P131.9.0

HERITAGE THERMAL SERVICES

Sample ID: W380441 A13422

INITIAL SAMPLE WEIGHT	100		Grams

PH (S/S/S) SW846-9045C

Analyst: D. VENTURINI | Analysis Date: 03-JUL-13 07:47 | Test: G624.0.0

Parameter	Result	Det. Limit	Units
PH	2.8	0.1	Std. Units

Sample Comments

< Less Than
NA Not Applicable
PAS Passed

Approved by: 7/31/13

Work Plan to Evaluate the Extent of the Ash Release at Heritage Thermal Services East Liverpool, Ohio

July 24, 2013

Prepared for:

Heritage Thermal Services
1250 St. George Street
East Liverpool, Ohio 43920

Prepared by:

Cox-Colvin & Associates, Inc.
7750 Corporate Blvd.
Plain City, Ohio 43064

Cox-Colvin
& ASSOCIATES, INC.
ENVIRONMENTAL SERVICES

Table of Contents

1.0 Introduction. 1

2.0 Background. 1

3.0 Approach. 1
3.1 Data Quality Objectives. 2
3.1.1 Problem Statement. 3
3.1.2 Goals of the Study. 5
3.1.3 Information Inputs. 5
3.1.4 Boundaries of the Study. 5
3.1.5 Analytical Approach. 5
3.1.6 Performance Criteria. 6
3.2 Plan for Obtaining Data. 6
3.2.1 Ash Sampling 6
3.2.2 Soil Sampling 6
3.2.3 Evaluation of Results. 7

4.0 Schedule. 7

Figures

1 Site Location Map, Heritage Thermal Services, East Liverpool, Ohio.

2 Proposed Soil Sample Locations, Heritage Thermal Services, East Liverpool, Ohio.

Tables

1. Target Analyte List (TAL) Metals with TestAmerica Reporting Limits

activities will be sufficient to meet the objective of the assessment, additional sampling may be required.

The approach presented in this work plan has been broken into four parts. These parts include:

- Develop Data Quality Objectives,
- Evaluate the Ash Material,
- Assess Potentially Affected Areas, and
- Assess Background Conditions.

3.1 Data Quality Objectives

Data Quality Objectives (DQOs) have been developed and will be implemented in a manner consistent with *Guidance on Systematic Planning Using the Data Quality Objectives Process*[1] prior to the collection of assessment data. The DQO Process is used to establish performance or acceptance criteria, which serve as the basis for designing a plan for collecting data of sufficient quality and quantity to support the goals of a study.

According to the guidance, the DQO Process consists of seven iterative steps that include:

- State the Problem,
- Identify the Goal of the Study,
- Identify Information Inputs,
- Define the Boundaries of the Study,
- Develop the Analytical Approach,
- Specify Performance or Acceptance Criteria, and
- Develop the Plan for Obtaining the Data.

Each step of the DQO Process defines criteria that will be used to establish the final data collection design. The first five steps are primarily focused on identifying qualitative criteria. The sixth step establishes acceptable quantitative criteria on the quality and quantity of the

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[1]USEPA, 2006. *Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4.* EPA/240/B-06/001. February 2006.

- Michael A. Paessun, CHMM, Cox-Colvin & Associates, Inc.
- Kathryn Kelly, PhD, Delta Toxicology Inc.

Conceptual Model

The ash released from the incinerator was carried through the air by a northeasterly wind, which was uncharacteristic of the prevailing winds in this area[2]. A wind rose constructed from wind data collected by HTS on July 13, 2013 is presented on Figure 1. Deposition of ash material occurred on the ground surface, grass, leaves, swimming pools, and other objects (building, cars, streets, etc.). There was limited ash deposition on the HTS parking lot located immediately west of the incinerator. Based on the visual inspection completed by HTS personnel following the event, deposition was spread less than a mile west of the plant, diminishing in the downwind direction.

The East Liverpool, Ohio area has a long industrial history which could result in the presence of metal-bearing dust unrelated to the ash release of July 13th, 2013. Current sources of metal-bearing dust in the vicinity of the HTS facility include a metal recycle facility, a cement plant, and an active rail line, all of which lie within the area of evaluation (Figure 2).

The released ash is a rust-color, powdery substance that is insoluble in water and was observed to float on the surface of standing water while heavier components, presumably silica, sank in water. The powder does not appear to adhere to objects once it is deposited and is easily brushed or rinsed from horizontal surfaces. Because of its insolubility and light weight, the material is not expected to penetrate beyond the ground surface. Since the releases, the area received some brief rain events, which would have washed the loose materials to the soil. The comparison of analytical results of ash, surface soil (less than 1 inch in depth), and slightly deeper soil samples (2 to 3 inches in depth), will be used to evaluate the longitudinal cross section of the plume.

Sampling locations will include areas of potential ash-related impact, reference sites (sites which may be impacted by other sources such as traffic), and assumed background locations (mostly unaffected save for ubiquitous atmospheric contributions).

While sample results will be reported as locality-specific individual analyte concentrations, no discrete source attribution can be made with respect to any particular result without further and broader analysis of the data as a whole.

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[2]Prevailing winds in the area are generally from the west and southwest.

3.1.6 Performance Criteria

Samples will be analyzed for the TAL metals using SW-846 method 6010B and method 7471A (mercury). Reporting limits from the laboratory will be at least as low as the lowest published risk-based screening levels where possible. If the laboratory cannot meet the risk-based screening level through their Practical Quantitation Limits (PQLs), then the samples will be analyzed to the method detection limit (MDL). Fifteen (15) paired surface soil and slightly deeper soil samples are planned for collection and analysis. Some of the locations may not be conducive to sampling during the field event. However, a minimum of twelve (12) paired samples will be collected.

3.2 Plan for Obtaining Data

As provided in the document, data needed to support the project will be obtained in a single phase. Individual activities are discussed below.

3.2.1 Ash Sampling

The purpose of this task is to better understand what metals were contained in the ash released from the incinerator and in what amounts. HTS personnel will collect a sample of the ash and place it in a sample container which will be relinquished to Cox-Colvin for shipping under chain-of-custody for analysis by TestAmerica Laboratories located in North Canton, Ohio.

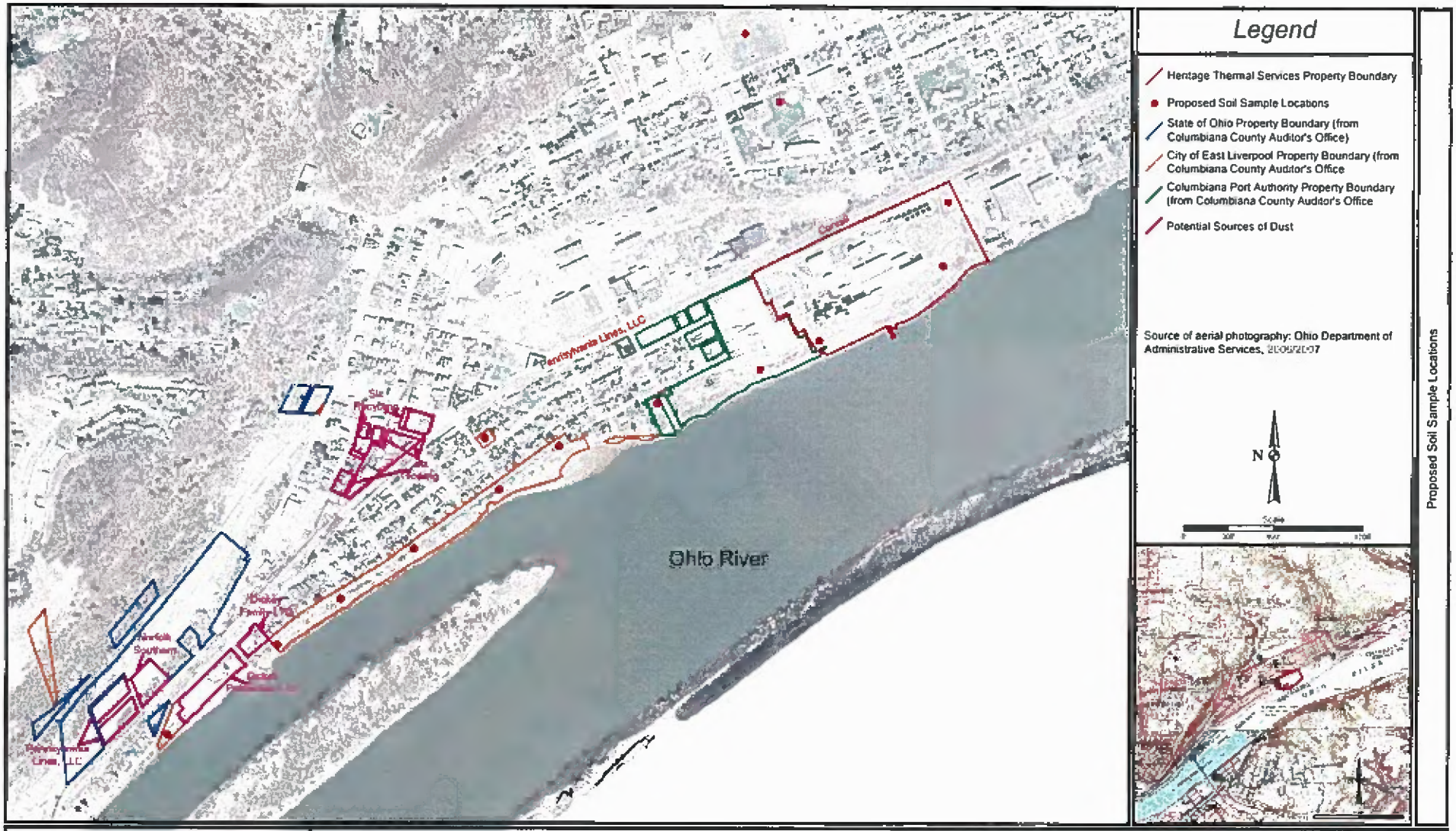
3.2.2 Soil Sampling

The purpose of this task is to collect samples required to assess the extent of the release. Soil samples from two depths in the potentially affected and unaffected areas in the community will be collected for analysis (Figure 2). Actual sample locations will depend on access and visual inspection of the sampling area. All samples will be taken from public property, right-of-ways, Port Authority property currently leased to HTS, and HTS properties.

Prior to sampling, a soil probe will be used to evaluate the make up of the material to be sampled. All attempts will be made to collect only native materials. Individual samples will be collected over an area of one square foot using a decontaminated stainless steel spoon or trowel. Attempts will be made to exclude organic material such as grass and roots, and pebbles and gravel.

A shallow sample will be collected from a one (1) square foot area at each location to a depth of 1 inch below the surface. A slightly deeper sample will be collected between 2 - 3 inches in depth also from a one (1) square foot area at each location. Each sample will be collected using a freshly decontaminated stainless-steel trowel or spoon, place in labeled laboratory-

Figures



Cox-Colvin & ASSOCIATES, INC. ENVIRONMENTAL SERVICES

Proposed Soil Sample Locations,
Heritage Thermal Services,
East Liverpool, Ohio

Figure
2

Table 1. Target Analyte List (TAL) Metals with TestAmerica Reporting Limits

Target Analyte List (TAL) Metals	
Element	Reporting Limit (mg/kg)
Aluminum (Al)	20
Antimony (Sb)	1
Arsenic (As)	1
Barium (Ba)	20
Beryllium (Be)	0.5
Cadmium (Cd)	0.2
Calcium (Ca)	500
Chromium (Cr)	0.5
Cobalt (Co)	5
Copper (Cu)	2.5
Iron (Fe)	10
Lead (Pb)	0.3
Magnesium (Mg)	500
Manganese (Mn)	1.5
Mercury (Hg)	0.1
Nickel (Ni)	4
Potassium (K)	500
Selenium (Se)	0.5
Silver (Ag)	0.5
Sodium (Na)	500
Thallium (Tl)	1
Vanadium (V)	5
Zinc (Zn)	2

Additional Metals	Reporting Limit (mg/kg)
Tin (Sn)	10
Titanium (Ti)	5

K:\CCA\Project\Heritage Thermal System\East Liverpool\Table 1.xls